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WHAT IN THE WORLD IS UNIVERSE? : A PRIME EXAMPLE

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This writing attempts to capture mind and matter to rational description by focusing on disparity between scientific method as it extracts concepts and discards particulars and ordinary cognitive functioning that extends from proximal experience. Discourse underlined with the concept of strict uniqueness of world entities is intended to examine critically paradox and solution efforts in the mathematical and cosmological sciences as problems of zero, infinity: vast and small numbers and discreteness are addressed.

Keywords: mind / matter, motion, prime numbers, cognition, visual representation, infinity, rationality, uniqueness, shape / form, world / universe, universals

Introduction

*From **Radar***
No one exactly knows
Exactly how clouds look in the sky
Or the shape of the mountains below them
Or the direction in which fish swim.
No one exactly knows.
The eye is jealous of whatever moves
And the heart Is too far buried in the sand
To tell.

Jack Spicer[1]

The human mind brings the witnessible world to life in two versions; one seemingly atemporally composed strictly of what is reflected back to the eye from encounter, the other entailing a search for truth that survives the test of time. Hegels' (Hegel, 2003) "phenomena" entails a motion picture of events possessed to the mind that is descriptive in nature, a world of phenomena not necessarily bearing universal character but that the world of the human is contained to phenomena, the witness of phenomena, though not necessarily to laws of nature that are universal. Cognition then questions to ask whether what if anything might exist beyond the reflection that is supposedly confined to the self and thus blind to all else that might supposedly exist. In the search for truth Aristotle, the student of Socrates, is described to have taken issue with him, describing the world as other than possessing absolute truth as the basis from which men might "act accordingly", Aristotle advances the existence

[1] https://www.poetrysociety.org/psa/poetry/poetry_in_motion/atlas/losangeles/from_radar/

of an unmoved mover, a world of glassine spheres elaborated with numbers, a world of men with variable disposition, and pursued the scientific study of nature. Interpretation in todays' world is dominated by statistical analysis and seems to have descended mostly from Aristotle rather than Socrates. It is plausible though that Aristotle, having perceived Socrates' difficult argument and failure with Gorgias over rhetoric and the genuine knack for truth, had not taken a different philosophical route, but pursued to find a truth from nature that he judged essential to Socrates success. Aspects of modern rationalizations in attempts to understand nature will be presented and a different interpretation given involving forms and prime numbers. Socrates contest with Gorgias is resolved if, as in the egg shape presented, a transcendental form underlining mind and matter owes its evolution to the shortest route possible without added rhetoric, i.e. a straight line and the longest lifetime, i.e. longest pathlength of connections to the evolved surface, the most direct assertion bearing the greatest depth of content.

Discussion

If it is asserted that Einsteins' theory of relativity seduces reason to test it because it challenges to threaten the existence of identity it still remains to argument whether, other than the self that mirrors upon it from witness to the external whether it is plausible that reasoning might produce other (Levinas, 1969, Husserl, 2015, in discourse about "solipsism" contend that the mind can produce no 'other' (being) but the self). Albeit the production of fear via reflection of the self upon the external strongly suggests that 'other' exists if it is assumed that fear is the product of disparity, it seems still two avenues of approach survive involving either:

1) Discourse that addresses to resolve paradox, necessarily existing from a challenge to evolved reasoning for its' existence, the experience of fear at the interface of time acquired learning associated with the experience of phenomena and logical contradiction arisen from abstraction, induction, involving the universal, a general case, seeded from the imagination

2) Discourse that treats the world as a collection of phenomena exclusively and rejects the existence of the general/universal case, perceives little priority for instantiation.

If it remains for philosophical address whether an instantiatable facet exists, it also remains to be clear that philosophy considers the topic of discovery both distinct and partner to abstraction whereas science method is restricted to discovery as its' modus operandi. The possibility for the existence of a universal that is separately synthesised remains, one that addresses fear originating disparity inherent to reflexive experience, and is also scientific in that it also entails discovery, exists descriptively as a gap in explanation [Block & Stalnaker, 1999] as a facet of the world that is undiscovered whether by reasoning alone or by discovery or reasoning combined though it is accepted that such explanation entail discovery, the world as a phenomenon itself, but to suggest contradictorily that the self-reflection, the product of (fear producing) measureable, whether witnessible or other wise, disparity, is abstractly predictable via the rendering of disparities between the self and the other singularly in numerical form via rationalized method.

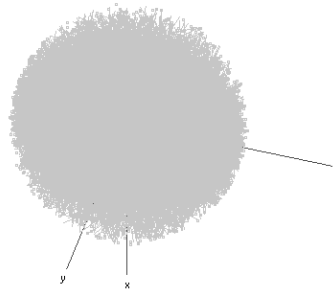

Figure 1: An egg shape from trigonometric functions

The proposed egg shape of space was discovered from intuition assuming 1) too few graphing points would be obtained as the result of redundancy unless periods of revolution were the product of pi divided by whole numbers, 2) the radius of light emitted from a moving object would be eccentrically distributed between forwards and reverse path as distance accomplished by light emitted in the reverse direction would be of opposite sign. The egg space is considered open topologically; the surface is composed of non-adjacent graph points. A cosmology involving the egg shape has been elaborated that attaches ultimate priority to disposition and form [Kirsh, 2011, 2013, 2015].

E/m= ΔV Slow Velocity^2/2 + ΔC Light Velocity^2

V=velocity of motion

C =Velocity of light (is applied as a variable)

R(a) Sin @ = Slow Velocity,

R(a) Cos @ = Δ Velocity of light

Radius(egg)/Radius(a) = [[(Sin theta)-(Cos theta)]^2 + (cos theta)^2+(Cos phi)^2]^(1/2)

10^14< theta,phi <10^17 d(theta,phi) =(10^17 – 10^14)/500 + 2.02 X 10^14

In this presentation distinction will be made between universe and world, "universe" will be presented as an instantiable facet of the discoverable "world"; the discovery via computer experiment of an instantiable atemporal shape of space is reported along with the vision of a world composed strictly of unique entities captured in rational terms to example as the set of prime numbers, in geometrical terms as constructions of semi-open mobius strips, in visual representation as connect-the-dots forms of otherwise open structures, in cosmological terms as a Sierpinskis' carpet, triangles composed of lines and points made of semi-open mobius strips.

Figure 2a. Sierpinski's carpet [Weisstein, 2014].

Figure 2b. Sierpinski's triangle (iteration from a square) [Wikipedia, 2014b].

Sierpińskis' Triangle (Figure 2) is constructed of equilateral triangles by producing finite subdivisions of an equilateral triangle, it produces equilateral triangles; expansion by placing test points outside of the triangle approaches an infinite size triangle. Sierpińskis' Triangle, extended to the Sierpińskis' Carpet (Figure 2a) [Weisstein, 2014a], a square or cubical carpet pattern, includes the three sided triangle and a point from which the pattern is tested from either an internal or external position to squares in the cubical; approach to or arrival at the Sierpińskis' Triangle results. Test with external points may result in approach to an infinite triangle. It is contended here, if Sierpińskis' Carpet is assumed to represent all of the possibilities for real space, i.e. an infinite sized cubic space, if a triangle exists within it then all areas are triangular. In corresponding construction, if an instance of a triangular area is witnessed to consist elementally of distance, the witness pair and reference to the witness pair, then triangular space is postulated to contain exclusively, distance, the witness pair and a reference to it, i.e. 3 vertices. Nature is herein considered to be regenerative, the third perspective and first perspective produce strictly third and first perspectives in which there exists a phase difference between intercouses of the first perspective and third perspective that constructs the first perspective involving strictly displacement of the witness pair. Time exists strictly to the third perspective while timeless displacement exists strictly to the witness pair. The described phase difference can be alternately viewed per triginometic assignment of velocities in the atemporal egg shape as a lag between potential energy, i.e. force, and kinetic energy, i.e. displacement occurred at the first perspective as it is witnessed from the time possessing third perspective. Thus either perspective, first or third, does and does not embody time or distance, either is always out of phase with the other; 2 additional vertices to the given 3 concerning displacement of the third perspective and the witness pair surface to the perspective entailing strictly displacement, i.e. does not embody time. In analogy, as advanced above, vision does and does not owe motion to its representations, the mind possesses simultaneously to/for its' existence, the rational and, born from it, the absurd as simply as the mind is absent at birth to speak of it, yet present at death to know infinitely more of it. It is science that insists on investigating birth simply because it is cloaked in darkness, yet the rational approach of science must also account for birth that can be nothing other than immaculate at its beginning. For the mathematician this can be nothing other than relentfully stressful. It is much less weighty to consider processes to proceed from death, concepts for explanation derived from what no longer possesses motion. In discourses [Hutcheon, 1995] concerning truth and science as Karl Popper argues for falsifyability as the only suitable test for the truth of science theory, Thomas Kuhn contests that science has no real escape from its original setting, its' virtue existing to concepts subsequently extracted and the verisimilitude or truthfull appearance of associated interpretation. It is reflexive to think that truth should bear weight to anchor life unmovingly yet it appears to be knowable best from witness of death,

ironic that seeking the truth from the processes of birth produces fear that blindly surmounts generations, is derived from the self reflection. Though meliorism, the idea holding that human interference with natural processes produces an improved outcome, seems the accepted course guide, the reasoning outlined here can be argued to suggest that blind faith is the better/safest choice. Of critical importance towards the beneficial application of science to nature is the elaboration of an ethic that has as progenitor neither morals derived from culture nor religously, but is inherent to nature and life. Important for productive reflection is the creation of an alternative to the commonly assumed world representation involving topologically closed connect-the-dots figures or the points of mathematical curves that are continuous.

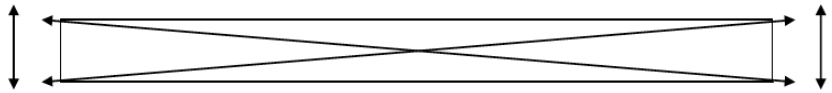

Figure 3. The Open Mobius Strip

The planar strip can be dissected laterally into triangles as the whole approaches closure resembling a mobius strip but with turns of less than 180 degrees. The mobius also possesses a chirality depending on the direction of the twist. As an example of a natural pattern DNA can be synthesized in a blunted mobius form [Han et al, 2010] though the only known example of the mobius in nature is in the form of a cyclic peptide [Wikipedia, 2014a]. It is postulated that "open Mobius" DNA exists from the temporal rather than physical perspective as a non-closed temporal or transcendental form that bridges generations and species (see [Starostin & Van der Heuden, 2007]).

The example of Sierpińskis' Triangle can be extended: the rectangular "open mobius strip" (Figure 5) rather than the "point" and line can be used to construct 'Sierpińskis' Carpet': the mobius strip existing to observation as lines and points is translated to exist in the open form in which physical ratios produce either the line or "geometrical point" bearing a history that exists neither philosophically nor physically no further beyond the door of the skin bearing entity (it is considered that skin divides intracellular structure such as golgi apparatus, mitochondria, chromatin, nucleus, synthesis and replication complexes from witness that are at least discernable with stains and the light microscope, e.g. possess history and motion, but not to other entities such as elements, compounds, DNA/RNA bases, etc. that require other types of prosthetics for their witness and investigation. Substituting the mobius for the connecting line in the creation of triangles within Sierplinskis' carpet lends chirality to the model; a left handed mobius will produce a left handed universe, etc. Tracing outward from a point beneath the skin of the inner most triangle produces an unacceptable change in chirility/direction of the arrow of time, hence the internal point is considered historyless. Temporally rather than physically continuous ("open Mobius") DNA is viewed to construct nature, connect species and individuals. Time is seen to proceed unidirectionally along the chirality bearing twists of the mobius. It is of special consequence that the mobius has a right or left chirality depending on orientation when it is closed, in Sierpińskis' triangle all descendents of right or left handed chirality are right or left handed respectively, one precludes the other.

If it is a truth that the world is composed strictly of uniqueness and a truth that amount and sequence supervene over existence, it should be, if the prime numbers, divisible only by themselves and one, each unique, are sufficient for explanation, that coherent analogy exists to elementary qualia of entities and phenomena, motion and form, that is instantiatable universally. If it is wished to fill the "explanation gap" with the "gap between prime numbers" prime gap distances can be envisioned between arbitrary surface points of the egg shape in which one point serves as the causitive locus of points in other egg surfaces; all surface points of spaces are postulated displaced from those of other spaces by prime gap distances to ascend upon a unique causation locus (see below discussion of TK5/planar knots-for the egg, though 6 vertices/2 per axis are initially projected it is possible that 1 of the 6 vertices/witness points is always unwitnessible/historyless). A specific unique path can be abstracted to exist for all points such that surface points of an egg space taken two at a time in pairs can be assigned non prime/non-unique distances of separation: from the third perspective the surface is wholly unique, from the first perspective the self is constructed of soldiers. For an egg shaped sea of egg shapes, "universe", contained to and governing 'world' that in turn acts to propagate 'universe', the surface skin of the unique space is interpreted to be continually growing uniqueness, while beneath it the continual becoming of likeness/familiarity produces the individual, observed species and categories of nature; the pause between potential and motion (sin (@) — cos(@)) at the point of witness is proposed to divide the recombinatory power of potential and absolute uniqueness that emanates as a combined character from the surface of structure. It has recently been reported that planks constant describing the relation of energy and wavelength of electromagnetic radiation is highly variable to be almost random depending on test criteria and parameters [Ballantine et. al., 2016]. The authors consider a world of (almost limitless) varieties of quantimizations possible is the experiment employs a specific shape embedded inside the crystal used in the experiment. It has also recently been discovered [Gionannini, 2014] that velocity of the light ray varies with shape of the photon; treated other than one dimensionally as in existing models, the photon can be given a shape and its' velocity measured directly by experiment in the laboratory. Theoretical physicists reasoning the profound difficulty to find evidence of the birth of the universe, uncertain of the nature of the evidence they seek might be, have recently mounted a penetrating study of the skies for triangular shapes [Wolchover, 2016b]. In attempts to capture to method the topic of black holes that are predicted not to exhibit event horizons some researchers predict the analytically based extraction from data of egg shaped shadows [Wade, 2016], other researchers conjecture to image the surfaces of black holes as two dimensional representations of holographic spaces [Crew, 2016]. Imagining the night sky it is conceivable that it would be paradoxical for scientists to rigidly qualify unique meaning concerning universe and world from the story telling connect-the-dots figures in constellations if the composing masses/stars and vast distances involved entail the possession of unobvious history of whatever actual constitution, primes gaps/unique distances from other objects. As in the instance of constellations, potentially embodying simultaneously the character of both universe and world, a character of nature to dig holes/temporal/energy-shapes with contours exactly conformed to the shapes of evolved matter/substance/physical emergences seems more appropriate in approach than interpretation involving ubiquities and constants involving strict adherence to the rational.

Analogy must suitably accommodate to capture cognition in a way that it is not something added up as one might add with an abacus as if it is closed within a container. Determination of properties carried out by a lag between potential and motion can be envisioned in which complete mismatch to the setting of becoming possibility is an impossibility. Temporal rather than physical contiguity supervenes as the necessary agent of emergence.

Harboring assumption that infinite objects exist in nature, in attempts to bridge, the ideal, rational and natural, mathematicians have produced models with which to classify logical systems according to their strength, weak or strong; weak logic is associated with the existence of the finite, physical reality, strong logic is associated with the ideal/infinity. In the developed system, the potential to sort divisions among the finite and infinite is lost to analytical complexity when triplets rather than pairs of numbers are extracted for test. The perspective is supposed to enable scientists the ability to engender plausible rational interpretation from physical encounter that does not resolve to be hopelessly amorphic in the case assuming capable rational universal goverence. The potential existential dependence of cognition itself upon both finite (the rigid) and infinite (i.e. the amorphous) terms, a possible capture of the nature of cognition itself involving the mathematically rational is obviously not a reflected character of analysis.

If the existence of physical definition is necessary to capture reasoning ability it becomes incoherent to assume the existence of the infinite object; reasoning as a phenomenom existing in domains beyond the finite could not exist beyond the dimensions of its' cage, existing inherently is but one case that excludes the instantiation of mathematical recursives from the domain of the never ending. In analogy, if the human mind and physiology are elaborated as bits of information (exampled in the expression "a million monkeys typing for a million years would produce the works of Shakespeare"), a non-crossing point can be envisioned to occur between domains of body and mind and spatial domains consisting of multitudes greater number of bits, such vastnesses do not exist as a source for reflection/re-reflection in discussion of phenomena or as disparities from self that can be members of the set of bits composing cognitive ability or its products.

Regarding uniqueness/primes, equality/disparity/a world of overlap/ intercourses and the capture of finite terms to the realm of infinity, of particular interest is the claim of a proof for the ABC conjecture by Shinichi Mochizuki, a Japanese mathematician.

The ABC conjecture states:
for whole numbers a,b,c having no common prime factors
if a + b = c then
but for a finite number bof ruled cases (prime factors a) X (prime factors b) X (prime factors c) =/> c.

For exempted cases (prime factors a) X (prime factors b) X (prime factors c) =/< c. The exemptions here seem vital to argument concerning nature and mathematics:

1) A changing value for space in a setting of overlapping spaces can be conjectured for a natural world constructed of active intercourses; if absolute total values in accounting columns are not knowable they can be construed not to exist. It is important to note that the whole width of the intact closed physical mobius, i.e.

has other than an abstracted mathematical existence, must be less than twice the width of an unsealed strip in order to avoid physical constraint precluding physical existence. Physical surfaces existing in extended description of the abc conjecture are topologically closed, i.e. inequality is not a facet, discussion must be adjusted to the exempted case condition, a + b < c :

(prime factor a) X (prime factor b) X (prime factor c) < c

The abc conjecture assumes importance with the added stipulation that the real sum of values in natural spaces are ubiquitously less than their obvious sum. In referral to actual nature only the condition a + b < c is considered viable.

On inspection two worlds are potentially describable, a world comprised strictly of primes/uniques, and a world possessing redundancies or identical soldiers; if it is assumed that from any position of reference it is possible only to reference the former, the latter, a world of identical soldiers, can be abstracted to exist from that perspective, if not effected to exist via the application of impulse using prosthetics to extend perspective of the senses.

(a + b) = c, the non existent abstracted total can be referred to a world possessing soldiers (of prime c). The only possible exclusion of soldiers from a setting entails the failed existence of witnessible totals. Current struggle existing over "the continuance of physics, as we know it" has been narrowed to the impossibility of proving the "multiverse" conjecture that is advanced as axiom by those obsessed with the positive alignment of empirical data with abstracted theory.

The following ruled exception is offered in an example of the abc hypothesis.

a= A= -1, b=2^(6n), c (i.e. a+b) =63 (A = -1 is substituted for a to indicate actual nature that extends indefinitely towards the past.

for all values of n, 63 turns up as a factor of c, thus c always descends or ascends from identical soldiers of 3 and 7 in abstracted worlds with the existing total = 63n. The third party reference from which temporal observation is possible, entailing, in a world restricted by definition to contain motion, the displacement of a third witness and a witness pair, to gain from these three soldiers of abstraction combined with motion that is beyond perception, an additional two vertices forming in imagined connect-the-dot fashion a perspective framing five sided pentagon that is present to the mind that ubiquitously seeks totals for navigation. Two's company, three's a crowd, seven a crowd of two crowds, might suffice to describe the streets of London for Shakespeare in the everywhere gaze of the Mona Lisa by Da Vinci that has been modelled geometrically using the golden number and a pentagon to demonstrate artistically engineered perspective.

In a proof involving graph theory, knots that are connected and non-planar, i.e. have TK5, mathematicians from Georgia Tech have shown that for planar graphs there is always a way to draw them so that the lines from point to point do not cross. [Condie, 2016]. If it is axiomatic to witness that intercourses of agents are one-at-time, i.e. witness is in pairs, according to the proof regardless of how vast in length a knot is entailed to a chain of events, if perspective is described as above in terms of the displacement of both the witness pair and a third perspective of observation producing 5 vertices, a perspective of observation of the knot should always exist involving 5 vertices and connections that do not physically cross,

i.e. an event of observation to witness in pairs entails displacement/motion and witness in pairs to all events. Though the connection of points to form 5 sided figures entails physical connect-the-dots contiguity that is not a supposed necessity of possibility, the possibility of its' creation and the everywhere impression of the gaze of the Mona Lisa is timeless. The visual representation is proposed to exist other than as if machined, but freely, as the product of disparity to the internal as energy is received from external spaces; the philosophical character of perspective is identical internally and externally, possessing infinity, i.e. that inaccessible to introspection, and finiteness as the view of an object is finite, contained similarly at its locus to "universe-containing world", the same within as without. Though it does seem possible but unlikely for more stringent limits of knowability, limited possibility for explanation, it is reasonable to argue that life is endowed with nor requires 'other' beyond.

Figure 4a. A five sided figure and the The Golden Number A sixth ubiquitously invisible vertices that cannot be associated with a knowable total/numerical accounting, is postulated. It is represented (-1) in the prime set [(2^6n) -(A=(1)]

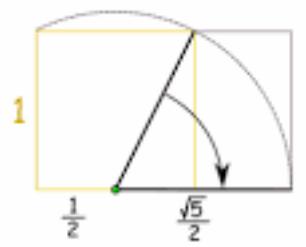

Figure 4b. The Golden Number demonstrates physical discontinuity that constructs the visual representation. (a bisected line, ratio of the shorter length to the longer length = ratio of the longer length to whole length) http://alexpetty.com/2010/01/10/the-golden-ratio/

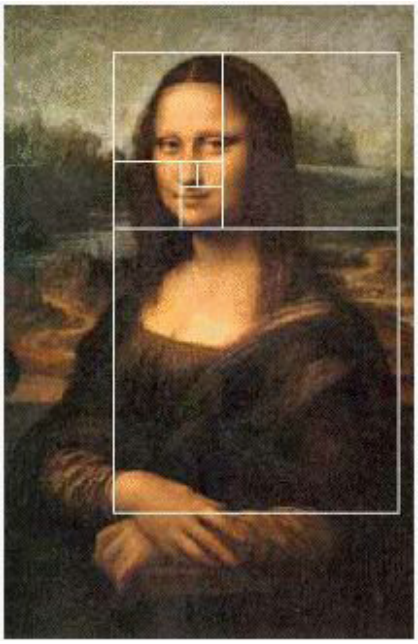

Figure 4c. Perspective in the Mona Lisa, The golden triangle, "Two's company, three's a crowd"

Unorderability of causation confined to physical description entails to reason the unreasonable existence of operations that are non-commutative; i.e. the outcome, c, depends on the temporal order of a and b. It might be extrapolated that the existence of time/motion precludes an exact tabulation of order. If prime can be used truthfully to represent uniqueness as is here suggested, and the exceptions given by the ABC conjecture is sufficient as an example to construct a domain for the natural world, this author finds the proof of the ABC conjecture questionable; the distribution of primes/ uniqueness, of inequality over a domain divided between the infinite and the finite becomes unhandleably paradoxical unless time, hence (the logically impossible) time point zero has become a veiled component hidden within proof construction. It should be noted that in the absence of a spatial domain absent of motion, i.e. historyless to the psyche, existing internally to the miniscule and externally to the vast, the impossibility of rationally construed reverse time exists. In analogy, rigorous rationality extended from finite to infinite may allow the mathematical prediction of a numerical value to, for instance, the distance of a squirrel in a tree to the ground; the projection of a knowable history to elements witnessed only with prosthetics devices operating from a third witnes perspective deductively leads the cognition to also construe the possible temporal reversal of relative motions directly witnessed by the unaided senses, i.e. the squirrel moving backwards in time from ground to perch in tree.

Conclusion

A world constituted of shape is proposed. Shapes introduced include the three dimensional egg shape, the triangle, pentagon, cube, the helix of DNA, the screw shaped void in the crystal used to investigate Planks constant.

In order to bridge paradoxes for explanation, the employment of scientific method in the construction of cosmologies is not clear concerning what is observable as that which strictly encompasses the material world as one might refer to the earth as world; however more is achieved and with no less rigor but added depth and awareness given in considerations of the limitations and entailments of perspective, and concerning possibility for instantiation to limit itself to the character of unaided proximal experience. It is here asserted that the concept 'history' as it relates to the path of emergence of materials and processes suffers poor definition in evolved science theory and modeling that focuses heavily on symmetry. Science has failed to discern the potential for distinct cases of vast amounts/infinities, action at a distance that is an illusion of the rational attempting to deal with the infinite, vast and small amounts, and the existence of motionless/historyless spaces as far as cognition is concerned. It is plausible to claim the capture of historyless/motionless to space rationally by other than science method; science excludes particulars from transmitted meaning to include only extracted concepts, necessarily, logically bypassing topics of "the concept" itself, the mind, the spirit.

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